## BEFORE START CHECK

- Preflight Inspection: COMPLETE
- Emergency Equipment: ON BOARD
- Passenger Briefing:
  - Door operation
  - Egress hammer location
  - Off-field landing discussion
  - CAPS operation
  - Sterile cockpit
  - Traffic awareness
  - No smoking
  - Who controls aircraft in emergency
  - Positive exchange of controls: COMPLETE
- Seats: ADJUSTED & LOCKED
- Seat Belts and Harnesses: SECURE
- Doors: CLOSED and CHECKED (may be deferred)

## STARTING ENGINE

- Key: IN IGNITION
- Brakes: HOLD
- BAT Master Switches: ON (Check Volts)
- Strobe Lights: ON
- Mixture: FULL RICH
- Power Lever: FULL FORWARD
- Fuel Pump: PRIME (count to 4) then BOOST
- Propeller Area: CLEAR
- Power Lever: OPEN 1/4 INCH
- Ignition Switch: START (Release after start)
- Oil Pressure: CHECK IN GREEN
- Alt Master Switches: ON
- Avionics Power Switch: ON
- Engine Parameters: MONITOR
- Amp Meter Indications: CHECK

## BEFORE TAXI CHECK

- Flaps: UP
- Radios & Avionics: SET AS REQUIRED
- Cabin Heat/Defrost: AS REQUIRED
- Fuel Selector: SWITCH TANK

## TAXI CHECK

- Brakes: CHECK
- Directional Gyro: CHECK
- Attitude Gyro: CHECK
- Turn Coordinator: CHECK

### NOTE:
Taxi over loose gravel at low RPM to avoid damage to propeller. Max engine speed during taxi is 1000 RPM.

The POH remains the official source of information.

## BEFORE TAKEOFF CHECK

- CAPS Pin: VERIFY REMOVED
- Seat Belts and Harnesses: SECURE
- Fuel Quantity: CONFIRM
- Fuel Selector: FULLEST TANK
- Fuel Pump: BOOST
- Flaps: SET 50% & CHECK
- Transponder: SET
- Navigation Radios/GPS: SET FOR DEPARTURE
- Cabin Heat/Defrost: AS REQUIRED
- Brakes: HOLD
- Mixture: RICH
- Power Lever: 1700 RPM
- Alternator: CHECK
- Pitot heat: ON
- Navigation Lights: ON
- Landing Lights: ON
- Annunciator Lights: CHECK
- Amp Meter Indication: CHECK POSITIVE
- Engine Parameters: CHECK
- Power Lever: 1000 RPM
- Autopilot: TEST, then DISCONNECT
- Flight Instruments: CHECK & SET
  - Heading Bug: RUNWAY HEADING
  - Altitude Bug: INITIAL ALTITUDE
  - VSI Setting: CLIMB RATE DESIRED
- Trim: SET IN T/O RANGE (aileron & elevator)
- Flight Controls: FREE & CORRECT
- Doors: CLOSED and CHECKED

## BEFORE TAKEOFF BRIEFING

Determine Need for/Direction of Crosswind Correction
Type of Takeoff Planned (Normal, Soft, Short)
Direction of Departure or Initial Assigned Heading
Initial Planned or Assigned Altitude
Rotation Speed is 65-70 KIAS

Procedure if Engine Fails During Takeoff:
- During Takeoff Roll: ABORT ON RUNWAY
- < 500’ AGL: LAND STRAIGHT AHEAD
- 500-1200 AGL: AREA EXPANDS AHEAD
- > 1200’ AGL: TURN INTO WIND IF RETURNING

### NOTE:
Returning to the field can only be accomplished once adequate altitude has been attained. A 45° bank turn into the wind is recommended at best glide speed.
### NORMAL TAKEOFF

Power Lever: FULL FORWARD  
Engine Instruments: CHECK  
Brakes: RELEASE  
Elevator Control: Rotate Smoothly at 65-70 KIAS  
At 85 KIAS, Flaps: UP  
Initial Climb: 96 KIAS

### SHORT FIELD TAKEOFF

Flaps: 50%  
Brakes: HOLD  
Power Lever: FULL FORWARD  
Engine Instruments: CHECK  
Brakes: RELEASE  
Elevator Control: Rotate Smoothly at 65 KIAS  
Airspeed at Obstacle: 77 KIAS  
Transition to Normal Climb: 96 KIAS

### CLIMB CHECK (above 1000 AGL)

Enroute Climb: 105 KIAS  
Throttle: FULL OPEN  
Mixture: FULL RICH  
Engine Parameters: CHECK  
Fuel Pump: OFF

### CRUISE CHECK

Landing Light: OFF  
Cruise Power: SET 55% to 75%  
Mixture: SEE QRC  
Engine Parameters: MONITOR  
Fuel Pump: OFF

Note: The Fuel Pump must be used for switching from one tank to another to avoid engine restart delays should engine quit due to fuel starvation.

**Cruise Leaning if Desired:**

Best Power = 75° Rich of Peak EGT  
75% Power or Less  
Best Economy = 50° Lean of Peak EGT  
65% Power or Less

**Approach Settings:**

<table>
<thead>
<tr>
<th>Prior to FAF</th>
<th>MP</th>
<th>KIAS</th>
<th>FLAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glideslope</td>
<td>12</td>
<td>100</td>
<td>50%</td>
</tr>
<tr>
<td>NP Decent</td>
<td>10</td>
<td>100</td>
<td>50%</td>
</tr>
</tbody>
</table>

### ARRIVAL AREA CHECK

ATIS/AWOS/Local Weather: RECEIVED  
Approach Briefing: COMPLETE  
Altimeter: SET  
Cabin Heat/Defrost: AS REQUIRED  
Landing Light: ON  
Fuel System: CHECK  
Mixture: AS REQUIRED  
Brake Pressure: CHECK

### BEFORE LANDING CHECK

Seat Belts and Harnesses: SECURE  
Fuel Pump: BOOST  
Mixture: FULL RICH  
Flaps: AS REQUIRED  
Autopilot: OFF BELOW 500’ AGL

### NORMAL LANDING

Downwind: 100 KIAS, FLAPS 50%  
Base: 90 KIAS, FLAPS 100%  
Final Approach: *80 KIAS, FLAPS 100%  
Touchdown: MAIN WHEELS FIRST  
Nosewheel: GENTLY LOWER  
Braking: MINIMUM REQUIRED

* Airspeed on final approach should be increased at least 5 KIAS in turbulent conditions.

### AFTER LANDING CHECK

Power Lever: 1000 RPM  
Fuel Pump: OFF  
Wing Flaps: UP  
Transponder: STBY  
Lights: AS REQUIRED  
Mixture: LEAN  
Pitot Heat: OFF

### SHUTDOWN CHECK

Fuel Pump: OFF  
Throttle: IDLE  
Ignition Switch: CHECK GROUNDING  
Avionics Power Switch: OFF  
Mixture: IDLE CUTOFF  
All Switches (right to left): OFF  
Magneto: OFF  
ELT: TRANSMIT LIGHT OUT  
CAPS Pin: INSTALL  
Chocks, Tie-Downs, Pilot Cover: AS REQUIRED  
Brake Sensors: INSPECT
SHORT-FIELD LANDING

Wing Flaps…………………………………………………………100%
Airspeed……………………………………MAINTAIN 75 KIAS UNTIL FLARE
Trim……………………………………………………………ADJUST
Power…………………………………………………………USE TO CONTROL GLIDE PATH
Clear of Obstacles…………SLOWLY REDUCE POWER
Attitude…………NOSE DOWN TO MAINTAIN 75 KIAS
Touchdown………………………………MAIN WHEELS FIRST
Brakes………………………………………………………………APPLY AS NEEDED

Wing Flaps…RETRACT (improves brake effectiveness)

Power should slowly be reduced once clear of obstacles, reaching idle just prior to touchdown.

Do NOT lock-up the brakes as this will flat spot the tires and increase the stopping distance.

CRUISE LEANING

Power Lever…………………………SET 65-75% POWER
Fuel Pump…………………………..VERIFY OFF
Lean Assist…………………………PRESS BUTTON

BEST POWER: Lean until "Peak Detected" then slowly enrich the mixture until "Peak Detected (Rich)" shows. "Best Power" will display at optimal mixture.

BEST ECONOMY: Use 65% or less power for BEST ECONOMY settings

Lean until "Last Peak Detected" is shown. Continue leaning until "Best Economy" is shown.

Press the "Normalize" button after leaning the mixture.

SERVICING

Oil Type Used……………………AEROSHELL OIL W 15w50
Oil Quantity (Normal)………………MINIMUM 6 QTS.
Oil Quantity (Long-Distance)………………7 QTS.
Fuel at Tabs…………………………26 GALS. USEABLE
Fuel to Top…………………………56 GALS. USEABLE
Nose Tire Pressure……………….40 +2/-0 PSI
Main Tire Pressure……………….53 +2/-0 PSI

CIRCUIT BREAKERS

Three rows of circuit breakers are located near the pilots right leg. This checklist series describes them by row (Front, Center, Aft) and number from the top down (1-13).

EXAMPLE: F4 is Front row, 4th breaker from the top.

The POH remains the official source of information.

INSTRUMENT APPROACH

AWOS/ATIS………………………..OBTAINED
Altimeter………………………………………SET
Localizer / VOR / NDB Frequency…………………………SET
Approach Course…………………………SET
Runway Length (Rwy ldg)………………………NOTE
Touchdown Zone Elevation (TDZ)………………………NOTE
Airport Elevation…………………………..NOTE
Approach Lighting…………………………..NOTE
Missed Approach Procedure……………………REVIEW
Approach Control Frequency…………………………SET
Tower Frequency…………………………SET IN STANDBY
Minimum Safe Altitude in Sector…………………………NOTE
MDA/DH (Minimums)……………………BUG (if able)
Missed Approach Point (MAP)……………………DETERMINE
Direction of Turn Off Runway After Landing………NOTE

Note: For a non-precision approach determine how the Missed Approach Point will be identified, either using timing or DME distance as published.

RECOMMENDED AIRSPEEDS

Instrument Approach…………105 KIAS/FLAPS 50%
Downwind…………100 KIAS/FLAPS 50%
Base………………….90 KIAS/FLAPS 100%
Final……………………80 KIAS/FLAPS 100%

*Reduce airspeed to 75 KIAS on short final.
Use 85-90 KIAS for No Flap Landing.

Approach Settings: MP KIAS FLAPS
Prior to FAF: 17 100 50%
Glideslope: 12 100 50%
NP Decent: 10 100 50%

V SPEEDS

Vne / Never Exceed…………………………….200 KIAS
Vno / Maximum Structural Cruise…………165 KIAS
Vo / Operating Maneuvering (3000 lbs.)……131 KIAS
Vfe / Max. Speed w/flaps 50%………………120 KIAS
Vfe / Max. Speed w/Flaps 100%……………100 KIAS
Vpd / Max. Demo’d Chute Deployment……135 KIAS
Vy / Best Rate of Climb…………………….96 KIAS
Vx / Best Angle of Climb……………………81 KIAS
Vr / Rotate………………………………………..67 KIAS
Vs1 / Stall in Cruise Configuration………..65 KIAS
Vso / Stall in Landing Configuration………..56 KIAS

Normal Climbout……………………………96 KIAS
Enroute Climb………………………………105 KIAS
Best Glide (at 3000 lbs.)………………….96 KIAS
**ALT 1 LIGHT STEADY**

VERIFY CONDITION: Prior to conducting the following procedure verify that ALT 1 is offline by checking the voltage meter indication for ALT 1. If the indication is near 28 volts the problem is a bad ALT 1 current sensor and you should NOT proceed with the following procedure.

If ALT 1 Current is Near 24 Volts
ALT 1 Master Switch………………………………...OFF
ALT 1 Circuit Breaker (C5)…………CHECK and RESET
ALT 1 Master Switch………………………………….ON
If alternator does not reset
ALT 1 Master Switch………………………………...OFF
Autopilot………………………………………………OFF
Reduce Loads
Audio Panel…………………………………………OFF
GPS/COM 2……………………………………..OFF
Fuel Pump…………………………………………OFF
Panel and Overhead Lights…………………………OFF
Landing Light…………………………………….OFF
Strobe Lights………………………………………OFF
Pitot Heat………………………………………..OFF

Pull Circuit Breakers
Skywatch/TAWS (F1)…………………………PULL
WX/Stormscope (F5)…………………………..PULL
MFD (F6)……………………………………PULL

Use the Autopilot to fly the aircraft.
Avoid use of manual trim.
Do NOT reset a circuit breaker more than one time.
Land within ONE hour. Plan on a flaps up or flaps 50% landing. Do NOT extend flaps to 100% for landing. You may not have sufficient power to retract flaps should a go-around be necessary.

**ALT 2 LIGHT STEADY**

NOTE: ALT 2 will not come on line at low RPM settings.

VERIFY CONDITION: Prior to conducting the following procedure verify that ALT 2 is offline by checking the voltage meter indication for ALT 2. If the indication is higher than the ALT 1 voltage then the problem is a bad ALT 2 current sensor and you should NOT proceed with the following procedure.

If ALT 2 Voltage is the Same as ALT 1 Voltage
ALT 2 Master Switch………………………………...OFF
Discontinue IFR Flight as soon as practical. Redundant electrical power is no longer available.

**HOT START**

1. Prime engine until 15 GPH is obtained:
   - Power Lever FULL FORWARD
   - Mixture FULL FORWARD
   - Boost pump switch to PRIME
2. Follow quickly with MIXTURE IDLE CUTOFF (power lever remains full forward).
3. Boost pump switch to BOOST.
5. If no start within 15 seconds repeat procedure but turn OFF boost pump after priming.
6. At engine start RETARD POWER LEVER followed by FULL RICH mixture.
7. Lean mixture as required.

**DOOR OPEN IN FLIGHT**

Airspeed……………………REDUCE TO 80-90 KIAS
Flaps……………………………………SET 50%
Land………………………AS SOON AS PRACTICAL

**COMMUNICATIONS FAILURE**

NOTE: With electrical failure the audio panel connects COM 1 to the pilot's headset and speakers.

Switches, Controls………………………………CHECK
Frequency……………………………………..CHANGE
Circuit Breakers……………………………..CHECK
Headset………………..CHECK CONNECTIONS / CHANGE
Hand Held Microphone…………………………CONNECT
Transponder……………………………CODE 7600

**TRIM / AUTOPILOT FAILURE**

Any trim or autopilot failure can be overridden by use of the control yoke.

Airplane Control…………………………..MANUALLY
Autopilot………………………………….DISENGAGE

If Problem Not Corrected:
Circuit Breakers…………………………PULL AS REQUIRED
PITCH TRIM (F11)
ROLL TRIM (F12)
AUTOPILOT (A9)

Power Lever…………………………..AS REQUIRED
Control Yoke………………..MANUALLY HOLD PRESSURE

**ENGINE INSTRUMENTS RESET**

Circuit Breaker (A1)………………PULL AND RESET
**EMERGENCY CHECKLIST**

**DURING TAKEOFF ROLL**
- **Throttle**: IDLE
- **Brakes**: APPLY
- **Wing Flaps**: RETRACT
- **Mixture**: CUTOFF
- **Master Switch**: OFF

**IMMEDIATELY AFTER LIFTOFF**
- **Best Glide or Landing Speed**: ESTABLISH
- **Mixture**: CUTOFF
- **Fuel Selector Valve**: ROTATE TO OFF
- **Ignition Switch**: OFF
- **Wing Flaps**: AS REQUIRED

**DURING FLIGHT (ATTEMPT RESTART)**
- **Airspeed**: 96 KIAS
- **Mixture**: RICH
- **Fuel Selector Valve**: SWITCH TANKS
- **Fuel Pump**: BOOST
- **Alternate Air**: ON
- **Ignition**: BOTH

**WITHOUT ENGINE POWER**
- **Airspeed**: 96 KIAS (flaps up)
- **Radio**: TRANSMIT MAYDAY
- **Transponder**: SQUAWK 7700
- **If off airport**: ACTIVATE ELT
- **Power Lever**: IDLE
- **Mixture**: CUTOFF
- **Fuel Selector Valve**: ROTATE TO OFF
- **Ignition Switch**: OFF
- **Fuel Pump**: OFF
- **Flaps (when landing assured)**: 100%
- **Master Switch**: OFF
- **Seatbelts**: SECURE
- **Exit Aircraft**: MEET PAX UPWIND

**ENGINE FIRE**
- **Mixture**: CUTOFF
- **Fuel Pump**: OFF
- **Power Lever**: FORWARD
- **Fuel Selector**: OFF
- **Starter**: CRANK
- **Fire Extinguisher**: OBTAIN AND USE

**EMERGENCY LANDING**
- **WITH ENGINE POWER (off-field)**
  - **Seatbelts**: SECURE
  - **Flaps**: 50%
  - **Airspeed**: 95 KIAS
  - **Selected Field**: FLY OVER TO OBSERVE
  - **Selected Field**: LINE UP FOR FINAL
  - **Avionics Power Switch**: OFF
  - **Wing Flaps**: 100%
  - **Airspeed**: 75 KIAS
  - **Master Switch**: OFF
  - **Doors**: UNLATCH PRIOR TO TOUCHDOWN
  - **Touchdown**: SLIGHTLY TAIL LOW
  - **Ignition Switch**: OFF
  - **Brakes**: APPLY HEAVILY

**ENGINE FIRE**
- **Mixture**: CUTOFF
- **Fuel Pump**: OFF
- **Power Lever**: IDLE
- **Fuel Selector**: OFF
- **Ignition**: OFF
- **Cabin Door**: OPEN RIGHT DOOR

If fire fails to extinguish increase glide speed to incombustible mixture speed.

**Emergency Landing**: EXECUTE

**DURING START**
- **Mixture**: IDLE CUTOFF
- **Fuel Pump**: OFF
- **Fuel Selector**: OFF
- **Power Lever**: FORWARD
- **Starter**: CRANK
- **Fire Extinguisher**: OBTAIN AND USE

If flames persist:
- **Power Lever**: IDLE
- **Fuel Pump**: OFF
- **Mixture**: CUTOFF
- **Fuel Selector**: OFF
- **Ignition Switch**: OFF
- **Bat-Alt Master Switches**: OFF
- **Exit Aircraft**: MEET PAX UPWIND

**IMMEDIATE ACTION ITEMS ARE IN BOLD PRINT**

**Revision Date**: 06 JUN 14
**EMERGENCY CHECKLIST**

FLY THE AIRPLANE - IDENTIFY EMERGENCY - READ CHECKLIST - DO NOT HURRY!

**CABIN FIRE**

**IN FLIGHT**

Bat-Alt Master Switch: OFF
Vents/Cabin Air/Heater: CLOSED
Fire Extinguisher: ACTIVATE

**WARNING:** Ventilate cabin by opening vents and opening doors if needed after use of fire extinguisher.

Avionics Power Switch: OFF
All Other Switches (except ignition): OFF

If fire appears to be out and electrical power is required for continued safe flight (IFR flight):
Bat-Alt Master Switch: ON
Circuit Breakers: CHECK for faulty circuit
DO NOT RESET if breaker has tripped.
Individual Radio Switches: OFF
Avionics Power Switch: ON
GPS-COM/Electrical Switches: ON one at a time until the short circuit is localized.

**WING FIRE**

Pitot Heat Switch: OFF
Navigation Light Switch: OFF
Landing Light Switch: OFF
Strobe Light Switch: OFF

Perform a sideslip to keep flames away from fuel tank and cabin.

Putting the airplane into a dive may blow out the fire. Do not exceed Vne (200) during the dive.

Land ASAP using wing flaps only as required for final approach and touchdown.

**ICING ENCOUNTER**

Pitot Heat Switch: ON
Time: NOTED
Heading and/or Altitude: CHANGE

A heading change of 180° should return you to ice free conditions. Lower altitudes are normally warmer. Advise ATC if under IFR control.

Cabin Heat: MAXIMUM
Windshield Defrost: FULL OPEN
Alternate Induction Air: ON

**WARNING:** With extremely rapid ice buildup select a suitable off-airport landing site.

**Stall Speed** will be significantly higher with ice accretion of 1/4 inch or more.

**Wing Flaps** Use flaps 50% or no flaps as wing wake airflow change with flaps down could result in loss of elevator effectiveness.

**Forward Slip** to land if needed for improved forward visibility.

**Approach:** If ice is suspected to be adhering to the tail use higher approach speeds.

No-Flap use 95-100 KIAS
Flaps 50% use 90-95 KIAS

**Land** in a level attitude.

**OTHER EMERGENCIES**

SEE POH SECTION 3

This checklist was created to deal with most, but not all, emergency situations. Additional information is available in Section 3 of the Pilot Operating Handbook (POH). The POH is the definitive source of information concerning operation of this aircraft. The Pilot in Command is responsible for complying with all items in the POH and applicable STC’s.